

REMARKS

This amendment is in response to the outstanding Official Action mailed May 21, 2003, the shortened statutory period for filing a response having expired on August 21, 2003. In this regard, Applicants submit herewith a three-month extension petition to reset the deadline for responding to the Official Action, to and including November 21, 2003. In view of the above amendments and below remarks, reconsideration of the Examiner's rejections is respectfully requested.

Applicants affirm the election of the Group I invention corresponding to claims 1-9 and 31-36. Accordingly, Applicants have canceled the non-elected claims 10-30 and 37-72, having been withdrawn by the Examiner from further consideration.

The Examiner has rejected claims 1, 2, 4-8, 35 and 36 under 35 U.S.C. § 102(b) as being anticipated by *Walsh*, U.S. Patent 5,478,462. The Examiner states that *Walsh* discloses Applicants' claimed composition, as well as the quantity of the components as claimed by Applicants. It will be shown that not only are the compositions different in kind, but also in function.

Walsh discloses an etch composition which is not intended to form openings in a polymer substrate, such as vias and through holes, but rather, only functions as a surface etchant for texturizing the surface of a polyimide material. As stated in *Walsh*, the disclosed composition renders the surface of the polyimide material hydrophilic and provides a uniformly and completely frosted or matte appearance to the surface of the material, due to nodules remaining when surrounding material is selectively dissolved by the composition. The purpose of the nodules is to promote adhesion of the subsequently applied metal layer.

In contrast, the etch composition of the present invention is intended to form vias or through holes in a polymer substrate. In addition, as disclosed in Applicants' specification in paragraph 0025, the composition provides an etch end point color signal, i.e., red. The attributes of Applicants' claimed composition in forming vias and through holes in a polymer substrate, as well as providing a color end point signal, is based upon Applicants' claimed composition, which is different from the composition disclosed in *Walsh*.

More specifically, *Walsh* discloses a composition including ethylene glycol, potassium hydroxide and ethylene diamine. However, the percentages of these components in the composition are contemplated to preclude the *Walsh* composition from functioning other than as a texturizing surface etchant, and one which is devoid of any color signal formation at the end of the etching process.

As disclosed in Applicants' specification in paragraph 0033, the amount of hydroxide base should preferably be from about 40 to about 80 grams for 100 mls of glycol/water present in the composition. As a result of the high concentration of hydroxide base, there will be created an end point signal when the etching is complete, i.e., producing the color red. In addition, as disclosed in paragraph 0033, to avoid contact pad blistering, the ratio of glycol to water should be in the range of from about 0.5:1 to about 8.5:1. It has been observed that pad blistering occurs when the ratio is less than about 0.5:1. As such, the composition of the present invention produces unexpected results of providing a color signal at the completion of the etching process, as well as preventing pad blistering during the etching process. There is no disclosure in *Walsh* of an identical composition which would anticipate Applicants' claimed invention, nor one which would render Applicants' claimed composition obvious.

Turning again to *Walsh*, it is noted as pointed out by the Examiner, that the percentage of hydroxide is between about 25% and 50% by weight. However, it is clear from the teachings of *Walsh* that the aforementioned range of hydroxide is based upon an aqueous solution containing only 45% by weight potassium hydroxide. Thus, the actual weight percent of potassium hydroxide in the etch composition would, therefore, be in the range of only 11.25% to 22.5%, i.e., 25×0.45 and 50×0.45 .

This is supported by the operative examples disclosed in *Walsh*. Specifically, the illustrative examples in *Walsh* contain 43.3% by weight water, 35.5% by weight potassium hydroxide (45% w/w), 10.6% by weight ethylene diamine and 10.6% by weight ethylene glycol. The potassium hydroxide solution at 35.5% falls within *Walsh's* previously disclosed range of 25% to 50%. However, the actual weight percent of potassium hydroxide in these formulations is only 16%, i.e., 35.5×0.45 . This is clearly significantly less than the hydroxide concentration of 25% to 50% previously referred to by *Walsh*. Accordingly, the 25% to 50% concentration of hydroxide referred to in *Walsh* and by the Examiner must only refer to the total amount of the 45% solution, and not based upon the actual hydroxide content. Any other interpretation would render the illustrative examples being outside the scope of *Walsh's* disclosure.

Contrary to the teachings of *Walsh*, Applicants' claimed composition includes about 40 to 80 grams per 100 ml of dihydric alcohol and water solution. The density of ethylene glycol is approximately that of water, i.e., 1.1. Thus, the claimed composition includes hydroxide at about 40% to 80% by weight of the dihydric alcohol and water solution. This is clearly outside the scope of any teachings of *Walsh*.

Still further, there is no disclosure in *Walsh* of Applicants' claimed ratio of dihydric alcohol to water. As noted from the above illustrative examples in *Walsh*, the ratio

of ethylene glycol to the added water is approximately 0.245:1, i.e., 10.6/43.3:43.3/43.31. This ratio will be even smaller when one takes into account the water present in the potassium hydroxide solution. The actual ratio is only about 0.169:1. As disclosed in Applicants' specification in paragraph 0033, it has been observed that pad blistering occurs when the ratio is less than about 0.5:1. This is supported by Applicants' data in tests 7 through 15 in Section "C". For example, in test 7, the dihydric alcohol to water ratio was 0.2:1, which showed 100% pad blisters. This ratio is the ratio approximately disclosed in the composition of *Walsh*. As such, it is contemplated that the *Walsh* composition might result in pad blistering, although not specifically reported by *Walsh*. Thus, the composition of *Walsh* is based on a small ratio of glycol to water. In any event, the claims pending in this application clearly distinguish over any composition disclosed in *Walsh*. Specifically, Applicants' claim the ratio of glycol to water in the higher range of from about 0.5:1 to 8.5:1. This is outside the range contemplated by *Walsh*. Accordingly, the Examiner's rejection is considered traversed and should therefore be withdrawn.

In considering Applicants' within response, Applicants designate the dependent claims as being allowable by virtue of their ultimate dependency upon submittedly allowable independent claims. Although Applicants have not separately argued the patentability of each of the dependent claims, Applicants' failure to do so is not to be taken as an admission that the features of the dependent claims are not themselves separably patentable over the prior art cited by the Examiner.

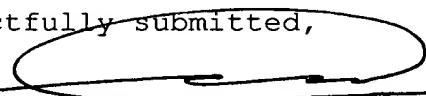
As it is believed that all of the rejections set forth in the Official Action have been fully met, favorable reconsideration and allowance are earnestly solicited.

If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that she telephone Applicants' attorney at (908) 654-5000 in order to overcome any additional objections which she might have.

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

Dated: November 12, 2003

Respectfully submitted,

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